

Amaranthus hunzikeri (Amaranthaceae), a New Species from Northwestern Argentina

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ABSTRACT. *Amaranthus hunzikeri* N. Bayón (Amaranthaceae), a new Argentinian species of subgenus *Albersia* (Kunth) Grenier & Godron from the Andes Mountains at altitudes above 3200 m, is described and illustrated. It resembles *A. cardenasianus* Hunziker, *A. squamulatus* (Andersson) B. L. Robinson, and *A. urceolatus* Bentham, but it differs by the prostrate or decumbent habit, spatulate leaves, and staminate flowers with three to five sepals. A key to the species in *Amaranthus* L. sect. *Pyxidium* Moquin-Tandon is included.

Key words: Amaranthaceae, *Amaranthus*, Argentina, IUCN Red List.

The genus *Amaranthus* L. s.l. (Amaranthaceae) is usually accepted today by most taxonomists, although it has been subject to different taxonomic interpretations and segregate genera have been recognized in the past like *Acanthochiton* Torrey, *Acnida* L., *Albersia* Kunth, *Amblogyna* Rafinesque, *Euxolus* Rafinesque, *Mengea* Schauer, *Sarratia* Moquin-Tandon, and *Scleropus* Schrader.

Until the 1980s, *Amaranthus* included 50 to 60 species (Ohwi, 1965; Townsend, 1974, 1980, 1985; Cronquist, 1981; Robertson, 1981; Eliasson, 1987), but the addition of new species in the past two decades has enlarged the genus from 65 to 75 species (Mosyakin & Robertson, 1996, 2003; Costea & DeMason, 2001; Costea et al., 2001a, b). This genus has its greatest diversity in tropical, subtropical, and warmer temperate regions of the world.

The new species belongs to *Amaranthus* subg. *Albersia* (Kunth) Grenier & Godron, being a monoecious, prostrate plant with a dichasia arranged in axillary clusters (Mosyakin & Robertson, 1996), and belongs specifically to section *Pyxidium* Moquin-Tandon, which is characterized by circumscissile fruits.

Amaranthus hunzikeri N. Bayón, sp. nov. TYPE: Argentina. Catamarca: Laguna Blanca, 14 Mar. 1989, 3200–3300 m, A. R. Reza & D. E. Ramadori 17 (holotype, SI). Figure 1.

Monoicous; caulis prostratus aut decumbens, 3–14 cm longus, a basi ramosus. Lamina spatulata, in apice rotunda aut emarginata, 10–17 × 3–9 mm; petiolus 4–11 mm longus. Glomeruli florum in axillis foliorum; bracteae 0.9–1.3 mm, mucrone conspicuo instructae. Flos masculinus (2)3- ad 5-merus, 1.3–2 mm, staminibus (2)3 ad 4. Flos femineus 5-merus; sepala late spatulata, reflexa, basi incrassata, 1.7–2.5 × 1.4–2.5 mm. Fructus circumscissilis, operculo rugoso; semen rubro-fusca aut nigricans, magis minusve 0.9–1.3 × 0.50–0.55 mm.

Prostrate or decumbent monoecious herbs; stems branched at base, unbranched above, glabrous, slender, 3–14 cm, 0.2–0.3 cm thick at base. Leaves similar in length throughout, petioles 4–11 mm, shorter than the lamina; lamina spatulate, rarely elliptic or oblong, 10–17 × 3–9 mm, glabrous, light green, usually attenuate or sometimes cuneate basally, decurrent, rounded or emarginated apically with a mucro 0.5–1 mm, margins crisped, veins raised abaxially. Inflorescences whitish green, axillary in rounded clusters to 7 mm diam., or crowded in short leafy terminal spike-like inflorescence to 20 mm on short internodes; bracts and bracteoles deltoid, ovate, elliptic or orbicular, persistent, shorter than the sepals, 0.9–1.3 × 0.5–0.8 mm, whitish green and scarious-membranous, green along midvein, mucro 0.2–0.3 mm. Flowers of both sexes mixed: staminate flowers with (2)3 to 5 oblong, ovate to elliptic sepals, 1.3–2 mm, light brown with brown midvein, subacute to obtuse apex, scarious, stamens (2)3 to 4; pistillate flowers 2.2–3.3 × 2.5–4 mm distally, longer than mature fruit, urceolate with 5 sepals, tending to become swollen and joined 0.5 mm or less at base, broadly spatulate, 1.7–2.5 mm, lamina expanded 1.4–2.5 mm wide near tip, rounded, spongy and light brown basally, narrowed to 0.2–0.6 mm wide, overlapping and bent outward in upper half, scarious, sometimes notched apically, midvein profusely divided with many green branches, equal or one smaller than the rest; stigmas 3, narrow, 0.12–0.40 mm. Fruit circumscissile, 1.5–1.7 × 1.1–1.3 mm, light brown; lid rugose with curved ridges, furrows, and a conspicuous line of dehiscence above the middle part of the fruit; body smooth below the line; seed lenticular, reddish brown to blackish brown, 0.9–1.3

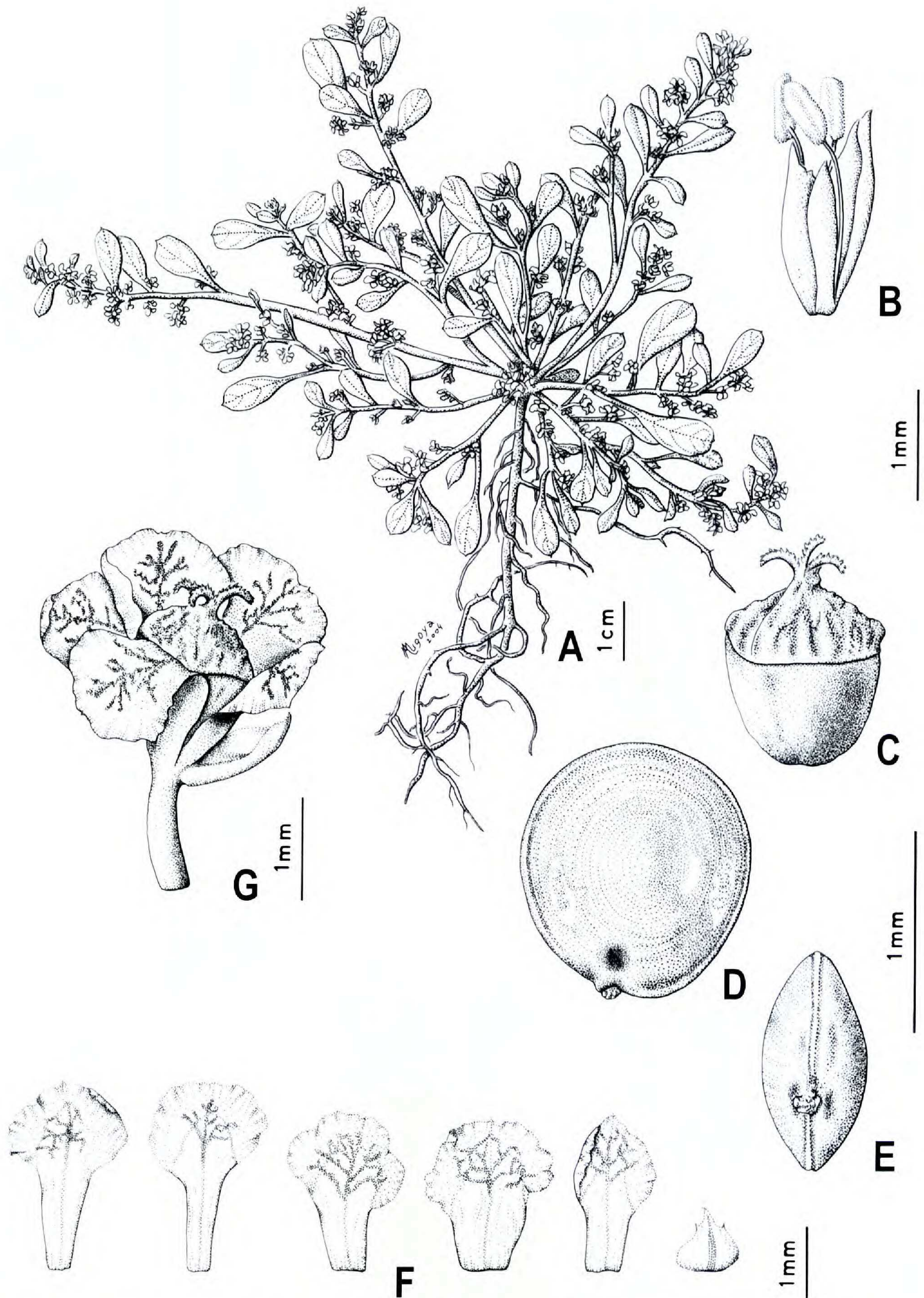


Figure 1. *Amaranthus hunzikeri* N. Bayón. —A. Habit. —B. Staminate flower. —C. Ovary. —D. Seed, lateral view. —E. Seed, hilar view. —F. Sepals of pistillate flower and bracteole. —G. Pistillate flower. Drawn from the holotype, *Reca & Ramadori 17* (SI).

× 0.50–0.55 mm, smooth surface and glossy centrally on the convex faces, otherwise minutely granular and dull, margin slightly notched at the seed scar.

Etymology. The specific epithet honors Armando Teodoro Hunziker (1919–2001), an Argentinian botanist who studied the genus *Amaranthus* extensively.

Distribution, habitat, and phenology. *Amaranthus hunzikeri* is known only from the Andes in the northwestern Argentinian provinces of Catamarca and Jujuy, where it is found at altitudes between 3200 and 3500 m, between the Tropic of Capricorn and S26°50' within the Puneña phytogeographic province. As the label of the holotype indicates, it prefers damp sites known as “vegas.” Both the holotype and paratype were collected in March with flowers and fruits.

IUCN Red List category. This species is known only from the two type specimens, so there is not enough information about its distribution or population status. Therefore, it is not possible to assess its risk of extinction, and it must be included in the category DD (Data Deficient) according to IUCN Red List criteria (IUCN, 2001).

Relationships. *Amaranthus hunzikeri* is similar to other South American species having urceolate flowers with the upper portion of the spatulate sepals partially bent outward. *Amaranthus hunzikeri* resembles *A. cardenasianus* Hunziker, with the latter differing in being an erect herb ca. 70 cm in height with ovate-rhombic leaf blades (4.5–6.5 × 2.4–3.4 cm) that are acuminate or more or less acute apically. The inflorescence of *A. cardenasianus* is mainly terminal and erect (12 × 3 cm), with the staminate flowers bearing five sepals and five stamens. The sepals of the pistillate flowers of *A. cardenasianus* have a green midvein with only two or three short secondary veins. *Amaranthus urceolatus* Benth differs from *A. hunzikeri* by having erect stems, oblong or ovate-elliptic leaves, and narrower flowers with the fully expanded perianth being ca. 2 mm in diameter distally and with two or three stamens and five sepals in the staminate flower. The sepals of *A. urceolatus* are joined basally, and the fruits are typically indehiscent. The main differences between *A. hunzikeri* and *A. squamulatus* (Andersson) B. L. Robinson are that the latter has erect stems, non-spatulate leaf blades, three stamens and five sepals in the staminate flower, and generally indehiscent fruits.

KEY TO THE SPECIES OF *AMARANTHUS* SECT. *PYXIDIUM* WITH FOUR OR FIVE SEPALS IN THE PISTILLATE FLOWERS

- 1a. Sepals of pistillate flowers not spatulate.
 - 2a. Inflorescence of solitary or aggregated terminal spikes.
 - 3a. Inflorescence of solitary spikes or aggregated into a panicle; sepals of pistillate flowers broadly ovate, base contracted into claw, with mucro 0.3–0.5 mm *A. pallidiflorus* F. Mueller
 - 3b. Inflorescence of interrupted terminal long spikes; sepals of pistillate flowers oblong or obovate, base not contracted into claw, with mucro 0.1–0.2 mm *A. leptostachyus* Benth
 - 2b. Inflorescence of axillary clusters, which are often confluent above in a leafy pseudo-spike.
 - 4a. Pistillate flowers with 5 obtuse or emarginated sepals. *A. clementii* Domin
 - 4b. Pistillate flowers with 4 or 5 acute sepals.
 - 5a. Leaves (at least in larger stems) 10 mm or more wide; sepals of pistillate flowers narrowly oblong, ovate or obovate, unequal, with mucro 0.2 mm *A. blitoides* S. Watson
 - 5b. Leaves less than 10 mm in width; sepals of pistillate flowers lanceolate to oblong-lanceolate, subequal, with acuminate tip 0.25–1 mm *A. praetermissus* Brenan
- 1b. Sepals of pistillate flowers spatulate.
 - 6a. Peduncles and bracts enlarged and hardened; sepals narrowly spatulate, without many veins; stigmas wide at base *A. scleropoides* Uline & W. L. Bray
 - 6b. Peduncles and bracts neither enlarged nor hardened; sepals broadly spatulate, with branched midvein; stigmas narrow at base *A. hunzikeri* N. Bayón

Paratype. ARGENTINA. **Jujuy:** Susques, 5 Mar. 1927. A. Castellanos s.n. (BA 27795).

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